

CLAIMS

I claim:

1 1. An air treatment apparatus, comprising:
2 an air mover for directing air toward a target compound, said target
3 compound comprising at least one selected from the group consisting of titanium
4 dioxide, copper, and silver; and
5 a UV light source adapted to direct UV light toward said air and said target,
6 whereby said UV light striking said air will generate ozone and striking said target
7 compound will generate at least one selected from the group consisting of hydroxyl
8 ions and super-oxide ions.

1 2. The air treatment apparatus of claim 1, wherein said target compound
2 comprises titanium dioxide.

1 3. The air treatment apparatus of claim 1, wherein said target compound
2 comprises 0-30% titanium dioxide, 0-30% silver, and 0-30% copper, by weight.

1 4. The air treatment apparatus of claim 1, wherein said target compound
2 comprises a base.

1 5. The air treatment apparatus of claim 4, wherein said base comprises
2 an epoxy base.

1 6. The air treatment apparatus of claim 5, wherein said copper, silver and
2 titanium dioxide is provided as powder.

1 7. The air treatment apparatus of claim 1, wherein said UV light and said
2 target compound are provided in a housing.

1 8. The air treatment apparatus of claim 1, wherein said UV light
2 generates ultraviolet light at a wavelength of 185nm.

1 9. The air treatment apparatus of claim 1, wherein said target compound
2 is provided on a target structure, said target structure being positioned substantially
3 adjacent to said UV light and adapted to permit the passage of a portion of said UV
4 light to contact said air.

1 10. The air treatment apparatus of claim 9, wherein said target structure
2 comprises a plurality of light-penetrable portions so as to permit the passage of UV
3 light.

1 11. The target element of claim 10; wherein said target structur is a
2 m sh.

1 12. The air treatment apparatus of claim 1, further comprising at least one
2 baffle to restrict the flow of air toward said UV light.

1 13. A method for treating air, comprising the steps of:
2 directing said air toward a target comprising at least one selected from the
3 group consisting of copper, silver and titanium dioxide;
4 directing UV light toward said target, said UV light being at a wavelength
5 sufficient to generate ozone from oxygen in said air and being sufficient to generate
6 at least one selected from the group consisting of hydroxyl ions and super-oxide
7 ions.

1 14. The method of claim 13, wherein said UV light and said target are
2 provided in a housing, and said air is drawn into said housing, said target being
3 provided within said housing and directing air from said target out of said housing.

1 15. The method of claim 13, wherein said target comprises 0-30%
2 titanium dioxide, 0-30% silver, and 0-30% copper.

1 16. The method of claim 13, wherein said target compound is provided as
2 a powder, said powder being adhered to a substrate.

1 17. The method of claim 13, further comprising the step of filtering said
2 air prior to directing said air at said target.

1 18. The method of claim 13, wherein said UV light has a wavelength of
2 about 185nm.

1 19. The method of claim 13, wherein said target compound is provided on
2 a target structure, said target structure being positioned substantially adjacent to
3 said UV light and being adapted to permit the passage of a portion of said UV light
4 to permit said UV light to contact said air and generate ozone.